Phillip A. Patten, et al.

Application No.: 10/848,827

Filed: May 19, 2004

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Listing of Claims:

The following listing of claims replaces all prior versions and listings of claims in the application. Additions are indicated by <u>underlining</u> and deletions are indicated by <u>strikethrough</u>.

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- 1. (Currently Amended) An isolated or recombinant polypeptide comprising a sequence which differs in 0 to 16 0 to 8 amino acid positions from the sequence of SEQ ID NO:12, which polypeptide exhibits an interferon alpha activity, wherein the interferon activity is an antiviral activity.
- 2. 4. (Canceled)
- 5. (Canceled)
- 6. (Original) The polypeptide of claim 1, wherein the antiviral activity of the polypeptide is equal to or greater than the antiviral activity of huIFN-alpha 2b or huIFN-alpha 2a.
- 7. (Original) The polypeptide of claim 6, wherein the antiviral activity of the polypeptide is at least two-fold greater than the antiviral activity of huIFN-alpha 2b or huIFN-alpha 2a.
- 8. (Currently Amended) The polypeptide of claim 1, wherein the polypeptide further exhibits an interferon-alpha antiproliferative activity and wherein the ratio of antiviral activity/antiproliferative activity is at least two-fold greater than the ratio of antiviral activity/antiproliferative activity exhibited by huIFN-alpha 2b or huIFN-alpha 2a.

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9. (Original) The polypeptide of claim 8, wherein the polypeptide exhibits a ratio of antiviral/antiproliferative activity at least four-fold greater than the ratio of antiviral activity/antiproliferative activity exhibited by huIFN-alpha 2b or huIFN-alpha 2a.

- 10. (Currently Amended) A conjugate comprising
- (a) the polypeptide of claim 1 a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:12; and
- (b) a non-polypeptide moiety covalently attached to the polypeptide, wherein the conjugate exhibits an interferon alpha activity, wherein the interferon activity is an antiviral activity.
- 11. (Original) The conjugate of claim 10, comprising at least two non-polypeptide moieties.
- 12. (Previously Presented) The conjugate of claim 18, comprising a polyethylene glycol moiety covalently attached to a cysteine residue.
- 13. (Previously Presented) The conjugate of claim 18, comprising a polyethylene glycol moiety covalently attached to a lysine residue or to the N-terminal amino group.
- 14. (Previously Presented) The conjugate of claim 18, comprising a polyethylene glycol moiety covalently attached to a lysine residue.
- 15. (Previously Presented) The conjugate of claim 18, comprising a polyethylene glycol moiety attached to the N-terminal amino group.

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16. (Previously Presented) The conjugate of claim 18, comprising a polyethylene glycol moiety attached to a lysine residue and a polyethylene glycol moiety attached to the N-terminal amino group.

- 17. (Original) The conjugate of claim 10, wherein the non-polypeptide moiety is a polymer.
- 18. (Original) The conjugate of claim 17, wherein the polymer is a polyethylene glycol.
- 19. (Currently Withdrawn) The conjugate of claim 10, wherein the non-polypeptide moiety is a sugar.
- 20. (Currently Withdrawn) The conjugate of claim 19, wherein the sugar is attached to an N-glycosylation site.
- 21. (Currently Amended) A composition comprising the polypeptide of claim 1

 a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:12, which polypeptide exhibits antiviral activity, and a pharmaceutically acceptable excipient.
- 22. (Currently Amended) A composition comprising the conjugate of claim 10
 a conjugate comprising
 - (a) a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:12; and
 - (b) a non-polypeptide moiety covalently attached to the polypeptide, wherein the conjugate exhibits antiviral activity, and a pharmaceutically acceptable excipient.

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23. - 31. (Canceled)

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- 32. (Currently Amended) A method for preparing a conjugate, the method comprising
- (i) providing the polypeptide of claim 1 a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:12, and
- (ii) attaching at least one non-polypeptide moiety to an attachment group of the polypeptide, wherein the resulting conjugate exhibits an interferon-alpha activity, wherein the interferon activity is an antiviral activity.
- 33. 36. (Canceled)
- 37. (Previously Presented) The method of claim 32, wherein the non-polypeptide moiety is a polymer.
- 38. (Previously Presented) The method of claim 37, wherein the polymer is a polyethylene glycol.
- 39. (Previously Presented) The method of claim 38, wherein the attachment group is a cysteine residue.
- 40. (Previously Presented) The method of claim 38, wherein the attachment group is a lysine residue or the N-terminal amino group.
- 41. (Previously Presented) The method of claim 38, wherein the attachment group is a lysine residue.

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42. (Previously Presented) The method of claim 38, wherein the attachment group is the N-terminal amino group.

- 43. (Previously Presented) The method of claim 38, wherein at least two polyethylene glycol moieties are attached to the polypeptide and wherein each polyethylene glycol moiety is covalently attached to a different amino acid residue of the polypeptide.
- 44. (Previously Presented) The method of claim 43, wherein the at least two polyethylene glycol moieties are attached to different lysine residues.
- 45. (Previously Presented) The method of claim 43, wherein one of the at least two polyethylene glycol moieties is attached to the N-terminal amino group and one of the at least two polyethylene glycol moieties is attached to a lysine residue.
- 46. (New) An isolated or recombinant polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:10, which polypeptide exhibits antiviral activity.
- 47. (New) The polypeptide of claim 46, wherein the antiviral activity of the polypeptide is equal to or greater than the antiviral activity of huIFN-alpha 2b or huIFN-alpha 2a.
- 48. (New) The polypeptide of claim 47, wherein the antiviral activity of the polypeptide is at least two-fold greater than the antiviral activity of huIFN-alpha 2b or huIFN-alpha 2a.

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49. (New) The polypeptide of claim 46, wherein the polypeptide further exhibits antiproliferative activity and wherein the ratio of antiviral activity/antiproliferative activity is at least two-fold greater than the ratio of antiviral activity/antiproliferative activity exhibited by huIFN-alpha 2b or huIFN-alpha 2a.

- 50. (New) The polypeptide of claim 49, wherein the polypeptide exhibits a ratio of antiviral/antiproliferative activity at least four-fold greater than the ratio of antiviral activity/antiproliferative activity exhibited by huIFN-alpha 2b or huIFN-alpha 2a.
- 51. (New) A conjugate comprising
- (a) a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:10; and
 - (b) a non-polypeptide moiety covalently attached to the polypeptide, wherein the conjugate exhibits antiviral activity.
- 52. (New) The conjugate of claim 51, comprising at least two non-polypeptide moieties.
- 53. (New) The conjugate of claim 51, wherein the non-polypeptide moiety is a polymer.
- 54. (New) The conjugate of claim 53, wherein the polymer is a polyethylene glycol.
- 55. (New) The conjugate of claim 54, comprising a polyethylene glycol moiety covalently attached to a cysteine residue.
- 56. (New) The conjugate of claim 54, comprising a polyethylene glycol moiety covalently attached to a lysine residue or to the N-terminal amino group.

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57. (New) The conjugate of claim 54, comprising a polyethylene glycol moiety covalently attached to a lysine residue.

- 58. (New) The conjugate of claim 54, comprising a polyethylene glycol moiety attached to the N-terminal amino group.
- 59. (New) The conjugate of claim 54, comprising a polyethylene glycol moiety attached to a lysine residue and a polyethylene glycol moiety attached to the N-terminal amino group.
- 60. (New; Currently Withdrawn) The conjugate of claim 51, wherein the non-polypeptide moiety is a sugar.
- 61. (New; Currently Withdrawn) The conjugate of claim 60, wherein the sugar is attached to an N-glycosylation site.
- 62. (New) A composition comprising

a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:10, which polypeptide exhibits antiviral activity, and

a pharmaceutically acceptable excipient.

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63. (New) A composition comprising a conjugate comprising

- (a) a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:10; and
- (b) a non-polypeptide moiety covalently attached to the polypeptide, wherein the conjugate exhibits antiviral activity, and a pharmaceutically acceptable excipient.
- 64. (New) A method for preparing a conjugate, the method comprising
- (i) providing a polypeptide comprising a sequence which differs in 0 to 8 amino acid positions from the sequence of SEQ ID NO:10, and
- (ii) attaching at least one non-polypeptide moiety to an attachment group of the polypeptide, wherein the resulting conjugate exhibits antiviral activity.
- 65. (New) The method of claim 64, wherein the non-polypeptide moiety is a polymer.
- 66. (New) The method of claim 65, wherein the polymer is a polyethylene glycol.
- 67. (New) The method of claim 66, wherein the attachment group is a cysteine residue.
- 68. (New) The method of claim 66, wherein the attachment group is a lysine residue or the N-terminal amino group.
- 69. (New) The method of claim 66, wherein the attachment group is a lysine residue.
- 70. (New) The method of claim 66, wherein the attachment group is the N-terminal amino group.

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71. (New) The method of claim 66, wherein at least two polyethylene glycol moieties are attached to the polypeptide and wherein each polyethylene glycol moiety is covalently attached to a different amino acid residue of the polypeptide.

- 72. (New) The method of claim 71, wherein the at least two polyethylene glycol moieties are attached to different lysine residues.
- 73. (New) The method of claim 71, wherein one of the at least two polyethylene glycol moieties is attached to the N-terminal amino group and one of the at least two polyethylene glycol moieties is attached to a lysine residue.